

Exosome Products For Research and Diagnosis

Human Exosome Detection Kits



Still Peforming WB and NTA for detection and characterization of exosomes? Discover the most powerful reagents for exosome detection by flow cytometry.

The kit is a simple immunobead assay for isolation/detection of exosome, using a bead-bound capture antibody and a fluorochrome conjugated detection antibody. The kit provides reproducible results and can be run in parallel to exosome immunophenotyping.

Immunostep's ExoStep⁽¹⁾, is intended for the immunoisolation (immunomagnetic or FACS) and Flow Cytometry analysis of pre-enriched human exosomes from biofluids (plasma, serum, urine) or cell culture media.

Main Characteristics of Exostep



(I)This kit was developed as part of a collaboration project between Immunostep, National Centre for Biotechnolgy, centre that forms part of the Spanish National Research Council (CNB-CSIC) and Fundación de la Universidad Autonoma de Madrid.

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Name	Unit size	Reference	Content of the Kit	Intended Use
Exostep™ Culture	25 tests	ExoS-25-C9	Superparamagnetic Capture Beads (CD63 Capture Beads) Primary detection antibody (CD9 PE) Assay Buffer 10X	This kit is intended for RUO in the detection of human exosomes from cell culture samples
Exostep™ Plasma	25 tests	ExoS-25-P81	Superparamagnetic Capture Beads (CD9 Capture Beads) Primary detection antibody (CD81 PE) Assay Buffer 10X	This kit is intended for RUO in the detection of human exosomes from Plasma samples
Exostep™ Urine	25 tests	ExoS-25-U9	Superparamagnetic Capture Beads (CD63 Capture Beads) Primary detection antibody (CD9 PE) Assay Buffer 10X	This kit is intended for RUO in the detection of human exosomes from Urine samples
Exostep™ Culture + Standard	50 tests	ExoS-50-CST9	Superparamagnetic Capture Beads (CD63 Capture Beads) Primary detection antibody (CD9 PE) Assay Buffer 10X Lyophilized exosomes (1x10^12) from PC-3 Human prostate cancer	This kit is intended for RUO in the detection of human exosomes from Cell Culture samples
Exostep™ Plasma + Standard	50 tests	ExoS-50-PST81	Superparamagnetic Capture Beads (CD9 Capture Beads) Primary detection antibody (CD81 PE) Assay Buffer 10X Lyophilized exosomes (1x10^12) from Human Serum	This kit is intended for RUO in the detection of human exosomes from Plasma samples
Exostep™ General Kit	25 tests	ExoS-25-G9 ExoS-25-G81	Superparamagnetic Capture Beads (CD63 Capture Beads) Primary detection antibody (CD9 Biotin) or (CD81 Biotin) Secondary detection reagent (PE Conjugated) Assay Buffer 10X	This kit is intended for RUO in the detection of human exosomes from cell culture supernatant and biological fluids
Mouse ExostepT Culture	M 25 tests	MO63CB-25	Superparamagnetic Capture Beads (CD63 Capture Beads) Primary detectin antibody (CD9 Biotin) Secondary detection regent (PE Conjugated) Assay buffer 10X	The kit is intended for RUO in the detection of mouse exosomes from Cell Culture samples

References: I. Yáňez-Mó M, Siljander P, Andreu Z, Bedina Zavec A, Borràs F, Buzas E et al. Biological properties of extracellular vesicles and their physiological functions. Journal of Extracellular Vesicles. 2015;4(1):27066. 2Campos S, Suárez H, Jara-Acevedo R, Linares-Espinós E, Martínez-Piñeiro L, Yáňez-Mó M, Valés-Gómez M. High sensitivity detection of extracellular vesicles immune-captured from urine by conventional flow citometry. Sci Rep. 2019; Feb 14;9(1):2042.

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ExoELISA-Step Kit

Based on original ExoStep, Immunostep introduces ExoELISA-Step kit. This kit is intended for the detection and quantification of exosomes by ELISA, which is an easy to perform and commonly used method.

Main Characteristics of ExoELISA-step

- Direct detection of Exosomes in cell culture supernatant and biological fluids
- 2 Without isolation or precipitation
- 3 Successfully detecting and quantifying exosomes



Microplate pre-coated with capture antibody



Add Sample or Standard





Add Biotinylated Detection Antibody



Add Colorimetric Substrate

Add streptavidin HRP-Conjugated

Name	Unit size	Reference	Content of the Kit	Intended Use
ExoELISA-Step Serum/Plasma	96 tests	EXO2508	Standard (Serum/plasma) washing buffer, buffer diluent, primary antibod (CD9 biotin) y, HRP-Conjungated, substrate solution, stop solution and immunoplate and sealing film	This kit is intended for RUO in the detection of human exosomes from Plasma samples
ExoELISA-Step Cell Culture	96 tests	EXO2506	Standard for assay calibration (PC3), washing buffer, buffer diluent, primary antibod (CD9 biotin) y, HRP-Conjungated, substrate solution, stop solution and immunoplate and sealing film	This kit is intended for RUO in the detection of human exosomes from cell culture samples



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MOST POPULAR ISOLATION TECHNIQUES

The biological characterization of exosomes requires in most cases the isolation of intact exosomes. In this sense, a large number of methods have been developed for the isolation of exosomes from biological fluids, among which are ultracentrifugation, chromatography, filtration, immunological separation and polymer-based precipitation. Each one of these methods presents its advantages and disadvantages, being the duration of the method, the need to have specialized equipment, the volume of sample, the purity and the low recovery, some of the disadvantages that these methods present.

IMMUNOSTEP offers two of the most common techniques for exosomes isolation with all the guarantees:

Exosome Precipitation Solution

Immunostep's Exosome Precipitation Solution, is intended for the extracellular vesicles (EVs) and specifically exosomes (~50-150 nm) from cell culture media and biofluids (plasma, serum, urine).

Main Characteristics of Exosome Precipitation Solution

Easy & rapid precipitation solution. Ultracentrifugation free method			
2 Very clean & better exosomes preparation, reduces carry-over o albumins and immunoglobulins compared to other methods			
3 Obtain intact exosome suitable for a great variety of protein-sensitive applications and downstream uses			
Increase biomarker sensitivity detection			
Product Description	Reference	Sample	Unit Size
Product Description Exostep Solution	Reference EPStep	Sample Cell Culture Media, Urine	Unit Size

Exosome Solutions & Buffers

EPStep-T

Improve your reseach with our exclusive solutions & buffers.

Exosome precipitation

from Plasma + Trombin

Product Description	Reference	Information	Unit Size
Exosome Detachment Solution	EDStep	Designed to elute the exosomes from the antibody-bead complex and allow downstream analysis without interferences	10 ml
Wash Buffer Solution (10X)	IMS0515	Contains 10 % albumin in 10mM sodium phosphate, 150 mM NaCl, pH 7.4, and KATHON anti-microbial agent	20 ml

Plasma

Immunostep provides custom-made reagents for research, academic or industrial. Get further details at: https://www.immunostep.com

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5 ml

Exosome Isolation Columns

Size exclusion chromatography (SEC) has been described as most efficient method for isolating EVs from complex biological fluids by singlestep, with a good recovery and with almost complete removal of contaminants, such as proteins and lipoproteins. Immunostep has developed 70nm and 35nm SEC columns for EVs isolation from complex biological fluids such as: plasma, serum, urine and cerebral spinal fluid.

Main Characteristics of Exosome Isolation Columns





10 400 2 300 10 12 19 T 16 Amount of EVs and protein in each fraction from the column. Comparative of protein (BCA) vs vesicles (FACS CD63+/CD9+) content. Western Blot. SEC fractions were loaded on SD-PAGE and immunoblotted for CD9 tetraspanin with anti-CD9 (VJ1/20), under no-reducing conditions

Exosome Plasma isolated by SEC



EVs isolation from plasma sample Elution profile monitored by abs (280).



Stain Index = (MFI Positive-MFI background 2σ background)



mir-16-5p mir-126-3p mir-19e-Flow cytometric Analysis of elution fractions. Exosomal miRNA levels by quantitative RT-PCR.

0.0

0.005

Product Description	Reference	Unit Size
EVs SEC 70nm - 4 pack	SEC7012-4	4 Columns
EVs SEC 70nm - 8 pack	SEC7012-8	8 Columns
EVs SEC 35nm - 4 pack	SEC3512-4	4 Columns
EVs SEC 35nm - 8 pack	SEC3512-8	8 Columns

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Human Capture Beads

Specific exosomes purification from one cell type or exosome subpopulation characterization remains a challenge. Thanks to our human capture beads, it is possible to isolate specific exosomes among others, from biological fluids (serum, plamas, CSF, saliva, urine, etc.) without previous sample enrichment procedures.

Main Characteristics of Human Capture Beads

Allows the detection of isolated exosomes from different isolation techniques, such us differential ultracentrifugation, precipitation solutions or size exclusion chromatography columns

Direct detection in the sample without the need for ultracentrifugation

3 Compatible with downstream analysis (WB, mRNA, miRNA, etc.)

Product Description	Reference	Unit Size
Human CD9 Capture Beads	9CB-25	25 test
Human CD63 Capture Beads	63CB-25	25 test
Human CD81 Capture Beads	81CB-25	25 test
Human CD326 (EpCAM) Capture Beads	326CB-25	25 test
Human CD274 (PD-L1) Capture Beads	274CB-25	25 test
Human IgGl Capture Beads (Isotype Control)	IGGICB-25	25 test
Human IgG2a Capture Beads (Isotype Control)	ICIGG2ACB-25	25 test
Mouse CD63 Capture Beads	MO63CB-25	25 test

Custom-Made Immunobeads

Immunostep provides custom-made beads for research, academic or industrial needs. Just choose your coating antibody for exosomes capture and we will perform all the conjugation and validation. Get further details at: https://www.immunostep.com

Lyophilized Fluorescent Exosomes

Freeze-dried fluorescent exosomes are extracellular vesicles (EVs) with an average particle size of 150 nm that express tetraspanins fused to a fluorescent protein (FP) marker: EGFP-CD63 (green) or mScarlet-CD81 (red). They are obtained by ultracentrifugation from transfected 293F cells expressing the FP-tetraspanin fusion protein in their membrane. The fluorescent exosomes are highly stable and can be used as reference material for EV analysis or for in vitro screening studies.

Main Characteristics

High stability of the fluorescent protein signal.
Batch-to-batch consistency through comprehensive analysis by Nanoparticle Tracking Analysis and Flow Cytometry.
Easy and fast to use.
Product Description Reference Unit Size
Fluorescent Exosomes EGFP-CD63 ExoEGFPCD63 30 µg
Fluorescent Exosomes mScarlet-CD81 30 µg
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